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EXAMINER

LEE, R

ART UNIT PAPER NUMBER

2713

5

DATE MAILED: 08/30/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/098,544

Applicant(s)
Endo et al

Examiner
Richard Lee

Group Art Unit
2713



- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-21 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-21 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☒ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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1. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Japan on March 12, 1997. A claim for priority under 35 U.S.C. 119(a)-(d) cannot be based on said application, since the United States application was filed more than twelve months thereafter.
2. The Official drawings filed Jun 17, 1998 are acceptable.
3. Figures 1 and 2 should be designated by a legend such as "Prior Art" (see pages 2-3 of the Specification) in order to clarify what is applicant's invention. (see M.P.E.P. 608.02(g)).
4. Claims 11, 20, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For examples:

(1) claim 11, line 2, "said image sensing means" shows multiple antecedent basis (see column 10, lines 3-4, line 7, line 10);

(2) claim 20, line 5, line 10, "the vehicle" shows no clear antecedent basis, respectively;

(3) claim 21, line 5, "the vehicle" shows no clear antecedent basis; and

(4) claim 21, lines 20-22, the phrase "sensed by the selected camera at **a timing a duration** corresponding to the know distance later in association with each other" as claimed is vague and indefinite.

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5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 10-16, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Lanckton et al of record (5,517,419).

Lanckton et al discloses an advanced terrain mapping system as shown in Figure 1, and the same image recording apparatus and method for recording images sensed by at least two image sensing means attached to a vehicle and a recording medium of a computer program which makes a computer execute control for recording images as claimed in claims 1-5, 12-16, and 20, comprising the same first image sensing means which is arranged to have an image sensing direction agreeing with a first direction of the vehicle, wherein the first image sensing means comprises a plurality of cameras, image sensing directions of which are deployed symmetrically about the first direction, wherein straight lines on the image sensing directions of the plurality of cameras cross each other in front of the plurality of cameras (see column 4, lines 9-19, column 7, line 15 to column 8, line 29); second image sensing means which is arranged at a position separated a known distance from the first image sensing means to have an image sensing direction agreeing with a second direction substantially 180 degrees different from the first direction, wherein the second image sensing means comprises a plurality of cameras, image sensing directions of which point in at least two directions symmetrical about the second direction (see

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column 7, line 15 to column 8, line 29); recording means for, when the vehicle travels in the first direction, associating first image data sensed by the first image sensing means with second image data sensed by the second image sensing means a time duration later corresponding to the known distance, and recording the first and second image data (see column 4, lines 9-19, column 7, line 15 to column 8, line 29, and column 10, lines 19-31); third image sensing means which is arranged at a position near the first image sensing means to have an image sensing direction agreeing with a third direction different from the first direction, and fourth image sensing means which is arranged at a position symmetrically to the third direction about a straight line pointing in the first direction (see column 7, line 15 to column 8, line 29); and first program code means for, when the vehicle travels in the first direction, recording first image data sensed by the first image sensing means and second image data sensed by the second image sensing means in association with each other (see column 4, lines 9-19, column 7, line 15 to column 8, line 29, and column 10, lines 19-31).

In addition, Lanckton et al shows the same image database apparatus for generating a database used for building a three-dimensional image space from image sequences sensed by a plurality of image sensing means attached to a vehicle after acquisition of image data (see columns 9-12) as claimed in claims 10 and 11, comprising the same first reader for reading data from a first image memory recorded by first image sensing means pointed in a first direction (see columns 4, lines 9-10, column 7, line 15 to column 8, line 29, column 10, lines 19-31, lines 58-67, column 13, lines 8-12); a second reader for reading data from a second image memory recorded by second image sensing means which is arranged at a position separated a known distance from the first

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image sensing means to point in a second direction substantially 180 degrees different from the first direction (see columns 4, lines 9-10, column 7, line 15 to column 8, line 29, column 10, lines 19-31, lines 58-67, column 13, lines 8-12); a third reader for reading data from a third memory which records a moving position and traveling direction of the vehicle, and means for associating image data read by the first reader, and image data at a position the known distance later of those read by the second reader with each other when traveling direction data read by the third reader indicates that the vehicle is traveling substantially straight (see columns 4, lines 9-19, column 7, line 15 to column 8, line 29, column 8, lines 59-67, column 9, lines 11-55, column 10, lines 19-31, lines 58-67, column 13, lines 8-12); and wherein when the image sensing means includes two cameras having different directions (see column 7, line 15 to column 8, line 29), the associating means associates image data read by the first reader and image data at a position the known distance later of those read by the second reader from the camera located at a counterclockwise or clockwise position each other, when the traveling direction data read by the third reader indicates a clockwise or counterclockwise turn (see column 4, lines 9-19, lines 52-58, column 7, line 15 to column 8, line 29, column 9, lines 24-55, column 10, lines 19-31, lines 58-67)

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 6-9, 17-19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanckton et al as applied to claims 1-5, 10-16, and 20 in the above paragraph (6), and further in view of Lachinski et al (5,633,946).

Lanckton et al discloses substantially the same image recording apparatus and method as above, further including first program code means for detecting a turn of the vehicle (see columns 4, lines 9-19, column 7, line 15 to column 8, line 29, column 9, lines 24-55, column 10, lines 19-31, lines 58-67); and wherein the plurality of cameras have two cameras, and the image sensing directions of the cameras cross each other on an extending line of the second direction, wherein the plurality of cameras have first to third cameras, the first camera has an image sensing direction agreeing with the second direction, and the image sensing directions of the second and third cameras are respectively turned clockwise and counterclockwise to be deployed symmetrically about the second direction (see column 4, lines 9-19, column 7, line 15 to column 8, line 29).

Lanckton et al does not particularly disclose, though, the followings:

(a) second program code means for selecting the camera which points at a larger angle in a counterclockwise or clockwise direction from the plurality of cameras depending on whether the vehicle has turned clockwise or counterclockwise from the first direction as claimed in claims 6, 17, and 21; and

(b) the selection means selects the first camera when the vehicle travels in the first direction, the second camera when the vehicle turns counterclockwise, and the third camera when the vehicle turns clockwise as claimed in claims 8 and 19.

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Regarding (a) and (b), the particular selection of any desired camera from a plurality of cameras in general is old and well recognized in the art. For example, Lachinski et al discloses a method and apparatus for collecting and processing visual and spatial position information from a moving platform as shown in Figures 1-4, and teaches the conventional use of a digital matrix router 23 of Figures 3 and 4 for providing any desired or selected image source(s) from video cameras 50 and four view generator 62 (see column 4, lines 35 to column 5, line 40, column 7, and Figures 3 and 4). In addition, it is considered obvious that if such image video sources may be selected by Lachinski et al, then such video sources may be selected from the plurality of cameras so as to provide one that produces a larger angle view. Essentially, if an object of interest is desired to be obtained, it is certain that the camera closest to the object will provide the largest angle of the image from among the plural cameras. And since Lachinski et al teaches the selective image source(s) from among a plurality of cameras, it is obvious that the one providing the largest angle may be selected, or for that matter the first, second, or third camera may be selected, for further processings as claimed. Therefore, it would have been obvious to one of ordinary skill in the art, having the Lanckton et al and Lachinski et al references in front of him/her and the general knowledge of camera selection features, would have had no difficulty in providing the digital matrix router 23 of Figures 3 and 4 of Lachinski et al for the advanced terrain mapping system as shown in Figure 1 of Lanckton et al so as to provide substantially the same if not the same desired camera selections for the same well known purposes as claimed.

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9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Donahue et al, Vertin, Neta et al, Juergens, Asakura et al, Tamura, and Taylor disclose various types of camera systems.

10. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

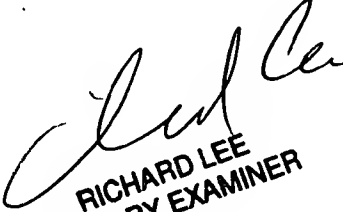
(703) 308-5359 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (703) 308-6612.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.


RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl

8/25/00

